DENON AVP control protocol

Rev Ver. :6.0.0

Application model : AVP-A1HD
Application terminal : RS-232C/ Ethernet

Connector specification

Ⅰ. RS-232C

Connector type: DB-9pin female type, slave straight connection (DCE type)
(1pin : GND , 2pin : TxD , 3pin : RxD , 5pin : Common(GND) , 4,6,7,8,9pin : NC)

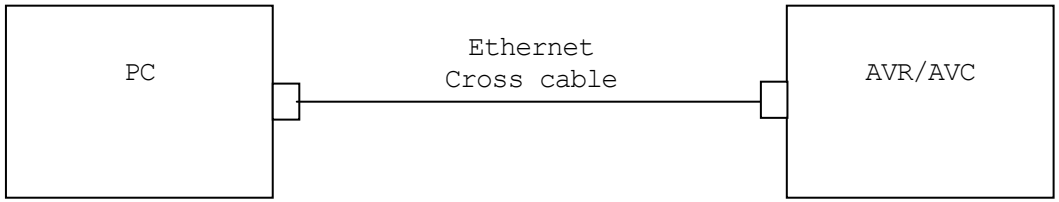
Communication format:

Synchronous system	: Tone step synchronization
Communication system	: A half duplex
Communication speed	: 9600bps
Character length	: 8 bits
Parity control	: None
Start bit	: 1 bit
Stop bit	: 1 bit
Communication procedure	: Non procedural
Communication data length	: 135 bytes (maximum)

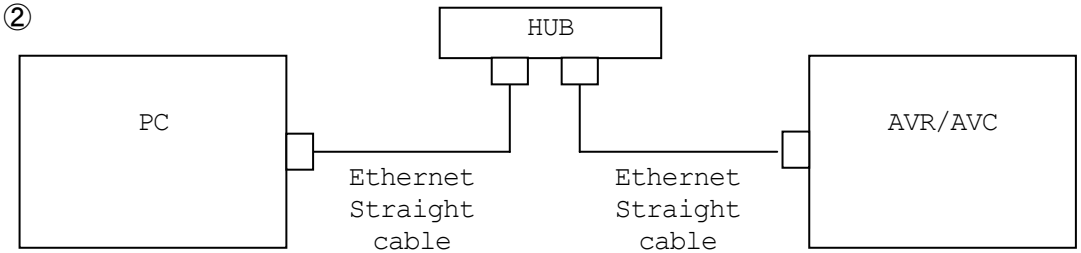
Ⅱ. Ethernet

Connector type : RJ-45(10BASE-T/100BASE-TX)

Example ①



Example ②



Communication format :

Communication system	: A half duplex
Communication speed	: 10Mbps/100Mbps
Communication port	: TCP port 23 (telnet)
Communication data length	: 135bytes (maximum)

NETWORK SETUP of AVP-A1HD

>Procedure of Network Setup mode.

(1)Press SYSTEM SETUP button, then System Setup Menu appears on FL-display(and GUI)
(2)Select “Network Setup > Detail” .
(3)Set parameters described below.

<DHCP>	"ON"---Use this setting when DHCP server is on the local network.
	"OFF"---Use this setting when DHCP server is not on the local network.
<IP Address>	When <DHCP> sets "OFF”, please set IP address.
	When <DHCP> sets "ON”, you can confirm the IP address that is set by server.
<Subnet Mask>	When <DHCP> sets "OFF”, please set Subnet Mask.
	When <DHCP> sets "ON”, you can confirm the Subnet Mask that is set by server.
<Gateway>	Set the address of Gateway when Gateway is on the local network.
	Do not set this parameter when Gateway is not on the local network.
<Primary DNS>	Do not set this parameter.
<Second DNS>	Do not set this parameter.
<Proxy>	Set this parameter "OFF".

<Network Option: Standby Mode Power Saving>
(1)Press MENU button, then Menu appears on FL-display (and GUI)
(2)Select “Manual Setup > Network Setup > Other > Power Saving”
(3)Set parameters described below.

“OFF”---Use this setting when using the AVP-A1HD connected in a network.
“ON”--- Use this setting when not using the AVP-A1HD connected in a network.
This setting is reducing the power consumption in the standby mode.

Protocol specification

The following three data forms are defined.

COMMAND : The message sent to a system(AVP) from a controller(Touch Panel etc.)
A command to a system is given from a controller.

EVENT : The message sent to a controller(Touch Panel etc.) from a system(AVP)
The result is sent, when a system is operated directly and a state changes.
*The form of ***EVENT*** presupposes that it is the same as that of ***COMMAND***.
Refer to the following table for the contents of ***COMMAND* and ***EVENT***.

RESPONSE : The message sent to a controller(Touch Panel etc.) from a system(AVP)
if the 'request command' (***COMMAND***+**?**+CR(0x0D)) has came from a controller.
The ***RESPONSE*** should be sent within 200ms of receiving the ***COMMAND***.
*The form of ***RESPONSE*** presupposes that it is the same as that of ***EVENT***.

Basic specification : The command by ASCII CODE, parameter expression
*ASCII CODE which can be used is from 0x20 to 0x7F : the alphabet and the number of 0-9 , and space (0x20) , Some signs , AND carriage return(0x0D)--- It is used only as a pause sign.

Command structure : COMMAND + PARAMETER + CR(0x0D)

COMMAND : ASCII CODE of 2 characters
ex. SI : Select Input source
MS : surround Mode Setting
MV : Master Volume setting
PW : system PoWer setting

PARAMETER : ASCII CODE (up to 25 characters)
ex. DVD : function name
CDR/TAPE : function name
THX SURROUND EX : surround mode name
SUPER STUDIUM : surround mode name
*Special Parameter--- ? : for request command

The example of a command * <CR> is the meaning of 0x0D.

SIDVD<CR> : Select Input source DVD

MSSTEREO<CR> : surround Mode Set to STEREO

MVUP<CR> : Master Volume UP

PWON<CR> : system Power ON

PWSTANDBY<CR> : system Power STANDBY

SI?<CR> : Request command for now playing input source >> Return ***RESPONSE*** 'SI***<CR>'

Others

A) ***COMMAND*** is receivable also during transmission of ***EVENT***.

B) Since CHANNEL VOLUME changes simultaneously when the SURROUND MODE changes, the value of the channel volume of all channels returns as ***EVENT***.

C) CHANNEL VOLUME returns the data of ALL channels by the present SURROUND MODE also including an intact channel. In this case, the data of an intact channel is set to "50".

D) Since SURROUND MODE changes simultaneously when the INPUT source changes, the SURROUND MODE (and also the value of the channel volume of all channels , It described in B)) returns as ***EVENT***.

E) When SURROUND MODE is the same in between INPUT source change before and after, ***EVENT*** of SURROUND MODE and CHANNEL VOLUME does NOT return.

F) Although ***EVENT*** of SURROUND MODE returns when the present SURROUND MODE is set up again, CHANNEL VOLUME does NOT return.

G) When SURROUND MODE is changed, before returning SURROUND MODE after change as ***EVENT***, the present SURROUND MODE is returned.

H) The ***RESPONSE*** should be sent as opposed to the request command by all the commands with which an ***EVENT*** exists , not need to the another request commands(ex. SV command).

I) The ***PARAMETER*** (with ***COMMAND*** and ***RESPONSE***, ***EVENT***) of minimum level of MASTER VOLUME defines “99”.

J) If the MASTER VOLUME & CHANNEL VOLUME set with 0.5dB step, the ***PARAMETER*** (with ***COMMAND*** and ***RESPONSE***, ***EVENT***) defines three ASCII characters as bellows.

ex. MASTER VOLUME =	+1.0dB :	MV81<CR>
	+0.5dB :	MV805<CR>
	0dB :	MV80<CR>
	-0.5dB :	MV795<CR>
	-1.0dB :	MV79<CR>
	|	|
	-79.5dB :	MV005<CR>
	-80.0dB :	MV00<CR>
	--- :	MV99<CR>

* At the **.0dB step, only uses two ASCII characters as ***PARAMETER***, same as usual.

K) Four seconds later, please transmit the next ***COMMAND*** after transmitting a power on ***COMMAND*** (PWON) .

COMMAND and PARAMETER list

COMMAND	***PARAMETER***	function	example
PW	ON	POWER ON/STANDBY change	PWON<CR>
	STANDBY		PWSTANDBY<CR>
	?	Request PW Status	PW?<CR>
MV	UP	MASTER VOLUME UP/DOWN, direct change to ***dB	MVUP<CR>
	DOWN		MVDOWN<CR>
	**	**:00 to 99 by ASCII, 80=0dB, 99=---(MIN)	MV80<CR>
	?	Request MV Status	MV?<CR>
CV	FL UP	CHANNEL VOLUME UP/DOWN, direct change to ***dB	CVFL UP<CR>
	FL DOWN	---FRONT Lch	CVFL DOWN<CR>
	FL **	**:38 to 62 by ASCII, 50=0dB	CVFL 50<CR>
	FR UP		CVFR UP<CR>
	FR DOWN	---FRONT Rch	CVFR DOWN<CR>
	FR **	**:38 to 62 by ASCII, 50=0dB	CVFR 50<CR>
	C UP		CVC UP<CR>
	C DOWN	---CENTER ch	CVC DOWN<CR>
	C **	**:38 to 62 by ASCII, 50=0dB	CVC 50<CR>
	SW1 UP	---SW(When "1SP" setting), SW Left(When "2SP L/R" or "3SP L/R/LFE setting), SW1(When "2SP MIX" or "3SP MIX" setting)	**CVSW1 UP<CR>**
	SW1 DOWN		**CVSW1 DOWN<CR>**
	SW1 **	**:00,38 to 62 by ASCII, 50=0dB, 00=OFF	**CVSW1 50<CR>**
	SW2 UP	---SW Right(When "2SP L/R" or "3SP L/R/LFE setting), SW2(When "2SP MIX" or "3SP MIX" setting)	**CVSW2 UP<CR>**
	SW2 DOWN		**CVSW2 DOWN<CR>**
	SW2 **	**:00,38 to 62 by ASCII, 50=0dB, 00=OFF	**CVSW2 50<CR>**
	SW3 UP	---LFE(When "3SP L/R/LFE setting), SW3(When "3SP MIX" setting)	**CVSW3 UP<CR>**
	SW3 DOWN		**CVSW3 DOWN<CR>**
	SW3 **	**:00,38 to 62 by ASCII, 50=0dB, 00=OFF	**CVSW3 50<CR>**
	SL UP		CVSL UP<CR>
	SL DOWN	---SURROUND Lch	CVSL DOWN<CR>
	SL **	**:38 to 62 by ASCII, 50=0dB	CVSL 50<CR>

MV , CV ***COMMAND*** : "*" parameter uses two or three ASCII characters. (see page6 (J) section)

COMMAND	***PARAMETER***	function	example
CV	SR UP		CVSRB UP<CR>
	SR DOWN	---SURROUND Rch	CVSRB DOWN<CR>
	SR **	**:38 to 62 by ASCII, 50=0dB	CVSRB 50<CR>
	SBL UP		CVSBL UP<CR>
	SBL DOWN	---SURROUND BACK Lch (SBch 2SP)	CVSBL DOWN<CR>
	SBL **	**:38 to 62 by ASCII, 50=0dB	CVSBL 50<CR>
	SBR UP		CVSBR UP<CR>
	SBR DOWN	---SURROUND BACK Rch (SBch 2SP)	CVSBR DOWN<CR>
	SBR **	**:38 to 62 by ASCII, 50=0dB	CVSBR 50<CR>
	SB UP		CVSBL UP<CR>
	SB DOWN	---SURROUND BACKch (SBch 1SP)	CVSBL DOWN<CR>
	SB **	**:38 to 62 by ASCII, 50=0dB	CVSBL 50<CR>
	?	Request CV Status	CV?<CR>
CV	**TR UP**	---TRANSDUCER LEVEL UP/DOWN, direct change to **dB	**CVTR UP<CR>**
	TR DOWN		**CVTR DOWN<CR>**
	TR **	**:00,38 to 62 by ASCII, 50=0dB, 00=OFF	**CVTR 50<CR>**
	TR?	Request CVTR Status	**CVTR?<CR>**
MU	ON	OUTPUT MUTE ON/OFF change	MUON<CR>
	OFF		MUOFF<CR>
	?	Request MU Status	MU?<CR>

CV ***COMMAND*** : "*" parameter uses two or three ASCII characters. (see page6 (J) section)

COMMAND	***PARAMETER***	function	example
SI	PHONO	Select INPUT source	SIPHONO<CR>
	CD		SICD<CR>
	TUNER		SITUNER<CR>
	DVD		SIDVD<CR>
	HDP		SIHDP<CR>
	TV/CBL		SITV/CBL<CR>
	SAT		SISAT<CR>
	VCR		SIVCR<CR>
	DVR-1		**SIDVR-1<CR>**
	DVR-2		**SIDVR-2<CR>**
	V.AUX		SIV.AUX<CR>
	NET/USB		SINET/USB<CR>
	XM	(North America model Only)	SIXM<CR>
	HDRADIO	(North America model Only)	SIHDRADIO<CR>
	IPOD		SIIPOD<CR>
	?	Request SI Status	SI?<CR>
ZM	ON	MAIN-ZONE ON/OFF change	ZMON<CR>
	OFF		ZMOFF<CR>
	?	Request ZM Status	ZM?<CR>
SR	PHONO | IPOD	REC SELECT mode set, and select source ---The name of PARAMETER is the same as that of the time of SI COMMAND.	SRPHONO<CR> | SRIPOD<CR>
	SOURCE	REC SELECT mode cancel	SRSOURCE<CR>
	?	Return SR Status	SR?<CR>
SD	AUTO	set AUTO mode (Priority:HDMI>>DIGITAL>>ANALOG)	SDAUTO<CR>
	HDMI	set force HDMI INPUT mode	SDHDMI<CR>
	DIGITAL	set force DIGITAL INPUT (Optical, Coaxial, BNC)mode	SDDIGITAL<CR>
	ANALOG	set force ANALOG INPUT mode	SDANALOG<CR>
	EXT.IN-1	---Set EXT.IN mode at AVP-A1HD	SDEXT.IN-1<CR>
	?	Return SD Status	SD?<CR>
DC	AUTO	set DIGITAL INPUT AUTO mode	DCAUTO<CR>
	PCM	set DIGITAL INPUT force PCM mode	DCPCM<CR>
	DTS	set DIGITAL INPUT force DTS mode	DCDTS<CR>
	?	Return DC Status	DC?

COMMAND	***PARAMETER***	Function	example
SV	DVD	VIDEO SELECT mode set, and select source	SVDVD<CR>
	HDP		SVHDP<CR>
	TV/CBL		SVTV/CBL<CR>
	SAT		SVSAT<CR>
	VCR		SVVCR<CR>
	DVR-1		**SVDVR-1<CR>**
	DVR-2		**SVDVR-2<CR>**
	V.AUX		SVV.AUX<CR>
	SOURCE	VIDEO SELECT mode cancel	SVSOURCE<CR>
	?	Request SV Status	SV?<CR>
MS	DIRECT	SURROUND mode set	MSDIRECT<CR>
	PURE DIRECT		MSPURE DIRECT<CR>
	STEREO		MSSTEREO<CR>
	STANDARD		MSSTANDARD<CR>
	DOLBY DIGITAL		MSDOLBY DIGITAL<CR>
	DTS SURROUND		MSDTS SURROUND<CR>
	NEURAL	(North America model only)	MSNEURAL<CR>
	DOLBY H/P		**MSDOLBY H/P<CR>**
	HOME THX CINEMA		**MSHOME THX CINEMA<CR>**
	WIDE SCREEN		MSWIDE SCREEN
	7CH STEREO		MS7CH STEREO<CR>
	SUPER STADIUM		MSSUPER STADIUM<CR>
	ROCK ARENA		MSROCK ARENA<CR>
	JAZZ CLUB		MSJAZZ CLUB<CR>
	CLASSIC CONCERT		MSCLASSIC CONCERT<CR>
	MONO MOVIE		MSMONO MOVIE<CR>
	MATRIX		MSMATRIX<CR>
	VIDEO GAME		MSVIDEO GAME<CR>
	?	Return MS Status	MS?<CR>

COMMAND	***PARAMETER***	function	example
MS	QUICK1	QUICK SELECT 1-3 MODE SELECT	MSQUICK1<CR>
	QUICK2		MSQUICK2<CR>
	QUICK3		MSQUICK3<CR>
	QUICK1 MEMORY	QUICK SELECT 1-3 MODE MEMORY	MSQUICK1 MEMORY<CR>
	QUICK2 MEMORY		MSQUICK2 MEMORY<CR>
	QUICK3 MEMORY		MSQUICK3 MEMORY<CR>
	QUICK ?	Return MSQUICK Status	MSQUICK ?<CR>
VS	MONIAUTO	Set HDMI MONITOR automatic detection	VSMONIAUTO<CR>
	MONI1	Set HDMI MONITOR OUT-1	VSMONI1<CR>
	MONI2	Set HDMI MONITOR OUT-2	VSMONI2<CR>
	MONI?	Return VSMONITOR Status	VSMONI?<CR>
	ASPNRM	Set Normal mode	VSASPNRM<CR>
	ASPFUL	Set FULL mode	VSASPFUL<CR>
	ASP?	Return VSASPECT Status	VSASP?<CR>
	SC48P	Set Resolution to 480p/576p	VSSC48P<CR>
	SC10I	Set Resolution to 1080i	VSSC10I<CR>
	SC72P	Set Resolution to 720p	VSSC72P<CR>
	SC10P	Set Resolution to 1080p	VSSC10P<CR>
	SCAUTO	Set Resolution to AUTO	VSSCAUTO<CR>
	SC?	Return VSSCALE Status	VSSC?<CR>
	SCH48P	**Set Resolution to 480p/576p (HDMI)**	**VSSC48P<CR>**
	SCH10I	**Set Resolution to 1080i(HDMI)**	**VSSC10I<CR>**
	SCH72P	**Set Resolution to 720p(HDMI)**	**VSSC72P<CR>**
	SCH10P	**Set Resolution to 1080p(HDMI)**	**VSSC10P<CR>**
	SCHAUTO	**Set Resolution to AUTO(HDMI)**	**VSSCAUTO<CR>**
	SCH?	**Return VSSCALE Status(HDMI)**	**VSSCH?<CR>**

COMMAND	***PARAMETER***	function	example
PS	TONE DEFEAT ON	PARAMETER setting TONE DEFEAT ON/OFF	PSTONE DEFEAT ON<CR>
	TONE DEFEAT OFF		PSTONE DEFEAT OFF<CR>
	TONE DEFEAT ?	Request PSTONE DEFEAT Status	PSTONE DEFEAT ?<CR>
	BAS UP	ALLch BASS UP/DOWN, direct change to **dB	PSBAS UP<CR>
	BAS DOWN	**:00 to 99 by ASCII, 50=0dB	PSBAS DOWN<CR>
	BAS **	---AVP-A1HD can be operated from -6 to +6(44 to 56)	PSBAS 50<CR>
	BASFRO UP	**FRONTch BASS UP/DOWN, direct change to **dB**	**PSBASFRO UP<CR>**
	BASFRO DOWN	**:00 to 99 by ASCII, 50=0dB**	**PSBASFRO DOWN<CR>**
	BASFRO **	**---AVP-A1HD can be operated from -6 to +6(44 to 56)**	**PSBASFRO 50<CR>**
	BASCEN UP	**CENTERch BASS UP/DOWN, direct change to **dB**	**PSBASCEN UP<CR>**
	BASCEN DOWN	**:00 to 99 by ASCII, 50=0dB**	**PSBASCEN DOWN<CR>**
	BASCEN **	**---AVP-A1HD can be operated from -6 to +6(44 to 56)**	**PSBASCEN 50<CR>**
	BASSUR UP	**SURROUNDch BASS UP/DOWN, direct change to **dB**	**PSBASSUR UP<CR>**
	BASSUR DOWN	**:00 to 99 by ASCII, 50=0dB**	**PSBASSUR DOWN<CR>**
	BASSUR **	**---AVP-A1HD can be operated from -6 to +6(44 to 56)**	**PSBASSUR 50<CR>**
	BASSBK UP	**SURROUND BACKch BASS UP/DOWN, direct change to **dB**	**PSBASSBK UP<CR>**
	BASSBK DOWN	**:00 to 99 by ASCII, 50=0dB**	**PSBASSBK DOWN<CR>**
	BASSBK **	**---AVP-A1HD can be operated from -6 to +6(44 to 56)**	**PSBASSBK 50<CR>**
	BASSWF UP	**SUBWOOFERch BASS UP/DOWN, direct change to **dB**	**PSBASSWF UP<CR>**
	BASSWF DOWN	**:00 to 99 by ASCII, 50=0dB**	**PSBASSWF DOWN<CR>**
	BASSWF **	**---AVP-A1HD can be operated from -6 to +6(44 to 56)**	**PSBASSWF 50<CR>**
	BAS ?	**Return PSBAS Status**	**PSBAS ?<CR>**
	TRE UP	ALLch TREBLE UP/DOWN, direct change to **dB	PSTRE UP<CR>
	TRE DOWN	**:00 to 99 by ASCII, 50=0dB	PSTRE DOWN<CR>
	TRE **	---AVP-A1HD can be operated from -6 to +6(44 to 56)	PSTRE 50<CR>
	TREFRO UP	**FRONTch TRE UP/DOWN, direct change to **dB**	**PSTREFRO UP<CR>**
	TREFRO DOWN	**:00 to 99 by ASCII, 50=0dB**	**PSTREFRO DOWN<CR>**
	TREFRO **	**---AVP-A1HD can be operated from -6 to +6(44 to 56)**	**PSTREFRO 50<CR>**
	TRECEN UP	**CENTERch TRE UP/DOWN, direct change to **dB**	**PSTRECEN UP<CR>**
	TRECEN DOWN	**:00 to 99 by ASCII, 50=0dB**	**PSTRECEN DOWN<CR>**
	TRECEN **	**---AVP-A1HD can be operated from -6 to +6(44 to 56)**	**PSTRECEN 50<CR>**

PS ***COMMAND*** : "*" parameter uses two ASCII characters. (see page 6 J) section)

COMMAND	*PARAMETER*	function	example
PS	**TRESUR UP**	**SURROUNDch TRE UP/DOWN, direct change to **dB**	**PSTRESUR UP<CR>**
	TRESUR DOWN	****:00 to 99 by ASCII, 50=0dB**	**PSTRESUR DOWN<CR>**
	TRESUR **	**--- AVP-A1HD can be operated from -6 to +6(44 to 56)**	**PSTRESUR 50<CR>**
	TRESBK UP	**SURROUND BACKch TRE UP/DOWN, direct change to **dB**	**PSTRESBK UP<CR>**
	TRESBK DOWN	****:00 to 99 by ASCII, 50=0dB**	**PSTRESBK DOWN<CR>**
	TRESBK **	**--- AVP-A1HD can be operated from -6 to +6(44 to 56)**	**PSTRESBK 50<CR>**
	TRE ?	Return PSTRE Status	PSTRE ?<CR>
	ROOM EQ:AUDYSSEY	ROOM EQ mode direct change	PSROOM EQ:AUDYSSEY<CR>
	ROOM EQ:BYP.LR		PSROOM EQ:BYP.LR<CR>
	ROOM EQ:FLAT		PSROOM EQ:FLAT<CR>
	ROOM EQ:MANUAL		PSROOM EQ:MANUAL<CR>
	ROOM EQ:OFF		PSROOM EQ:OFF<CR>
	ROOM EQ: ?	Request PSROOM EQ: Status	PSROOM EQ: ?<CR>
	DYE ON	**DYNAMIC EQ ON/OFF direct change**	**PSDYE ON<CR>**
	DYE OFF		**PSDYE OFF<CR>**
	DYE ?		**PSDYE ?<CR>**
	NIGHT OFF	NIGHT MODE direct change	PSNIGHT OFF<CR>
	NIGHT LOW		PSNIGHT LOW<CR>
	NIGHT MID		PSNIGHT MID<CR>
	NIGHT HI		PSNIGHT HI<CR>
	NIGHT ?	Return PSNIGHT Status	PSNIGHT ?<CR>
	RSTR OFF	AUDIO RESTORER direct change	PSRSTR OFF<CR>
	RSTR MODE1		PSRSTR MODE1<CR>
	RSTR MODE2		PSRSTR MODE2<CR>
	RSTR MODE3		PSRSTR MODE3<CR>
	RSTR ?	Return PSRSTR Status	PSRSTR ?<CR>
	DELAY UP	AUDIO DELAY UP/DOWN, direct change to ***dB	PSDELAY UP<CR>
	DELAY DOWN	***:000 to 999 by ASCII, 000=0ms, 200=200ms	PSDELAY DOWN<CR>
	DELAY ***	--- AVP-A1HD can be operated from 0 to 200	PSDELAY 200<CR>

PS ***COMMAND*** **:** "*" parameter uses two or three ASCII characters. (see page 6 J) section)

COMMAND	*PARAMETER*	function	example
PS	SB:MTRX ON	SURROUND BACK SP MODE set / **THX MODE set**	PSSB:MTRX ON<CR>
	SB:NON MTRX		PSSB:NON MTRX<CR>
	SB:PL2X CINEMA		PSSB:PL2X CINEMA<CR>
	SB:PL2X MUSIC		PSSB:PL2X MUSIC<CR>
	SB:7.1+THX		**PSSB:7.1+THX<CR>**
	SB:ULTRA2 C		**PSSB:ULTRA2 C<CR>**
	SB:SURR EX		**PSSB:SURR EX<CR>**
	SB:MUSIC		**PSSB:MUSIC<CR>**
	SB:GAME		**PSSB:GAME<CR>**
	SB:ON		PSSB:ON<CR>
	SB:OFF		PSSB:OFF<CR>
	SB: ?	Request PSSB: Status	PSSB: ?<CR>
	CINEMA EQ.ON	CINEMA EQ. ON/OFF	PSCINEMA EQ.ON<CR>
	CINEMA EQ.OFF		PSCINEMA EQ.OFF<CR>
	CINEMA EQ. ?	Request PSCINEMA EQ. Status	PSCINEMA EQ. ?<CR>
	MODE:MUSIC	CINEMA / MUSIC / GAME / PL mode change	PSMODE:MUSIC<CR>
	MODE:CINEMA	(This parameter can change DOLBY PL2,PL2x,NEO:6 mode.)	PSMODE:CINEMA<CR>
	MODE:GAME	---SB=ON : PL2x mode / SB=OFF : PL2 mode	PSMODE:GAME<CR>
	MODE:PRO LOGIC	--- GAME can change DOLBY PL2 & PL2x mode --- PL can change ONLY DOLBY PL2 mode	PSMODE:PRO LOGIC<CR>
	MODE: ?	Request PSMODE: Status	PSMODE: ?<CR>
	INP MUL	**INPUT MODE change**	**INP MUL<CR>**
	INP 2CH	**This parameter can change EXT.IN(DSP) mode.**	**INP 2CH<CR>**
	INP ?	**Request PSINP Status**	**INP ?<CR>**
	DEC:PL2X C	**DECODER change**	**PSDEC:PL2X C<CR>**
	DEC:PL2 C	**(This parameter can change THX mode.)**	**PSDEC:PL2 C<CR>**
	DEC:PL		**PSDEC:PL<CR>**
	DEC:NEO:6 C		**PSDEC:NEO:6 C<CR>**
	DEC: ?	**Request PSDEC: Status**	**PSDEC: ?<CR>**
	DEH:PL2 C	**DECODER change**	**PSDEH:PL2 C<CR>**
	DEH:PL2 M	**(This parameter can change DOLBY HEADPHONE mode.)**	**PSDEH:PL2 M<CR>**
	DEH:NEO:6 C		**PSDEH:NEO:6 C<CR>**
	DEH:NEO:6 M		**PSDEH:NEO:6 M<CR>**
	DEH:OFF		**PSDEH:OFF<CR>**
	DEH: ?	**Request PSDEC: Status**	**PSDEH: ?<CR>**

COMMAND	***PARAMETER***	function	example
PS	DRC AUTO	DRC direct change	PSDRC AUTO<CR>
	DRC LOW		PSDRC LOW<CR>
	DRC MID		PSDRC MID<CR>
	DRC HI		PSDRC HI<CR>
	DRC OFF		PSDRC OFF<CR>
	DRC ?	Return PSDRC Status	PSDRC ?<CR>
	DCO OFF	D.COMP direct change	PSDCO OFF<CR>
	DCO LOW		PSDCO LOW<CR>
	DCO MID		PSDCO MID<CR>
	DCO HIGH		PSDCO HIGH<CR>
	DCO ?	Return PSDCO Status	PSDCO ?<CR>
	LFE UP	LFE UP/DOWN, direct change to **dB	PSLEE UP<CR>
	LFE DOWN	**:00 to 99 by ASCII, 00=0dB, 10=-10dB	PSLFE DOWN<CR>
	LFE **	---AVP-A1HD can be operated from 0 to -10	PSLFE 10<CR>
	LFE ?	Return PSLFE Status	PSLFE ? <CR>
	EFF ON	EFFECT ON/OFF, EFFECT LEVEL direct change to **dB	PSEFF UP<CR>
	EFF OFF	**:00 to 99 by ASCII, 00=0dB, 10=10dB	PSEFF DOWN<CR>
	EFF **	---AVP-A1HD can be operated from 1 to 15	PSEFF **<CR>
	EFF ?	Return PSEFF Status	PSEFF ?<CR>
	DEL UP	DELAY UP/DOWN, direct change to ***dB	PSDEL UP<CR>
	DEL DOWN	***:000 to 999 by ASCII, 000=0ms, 300=300ms	PSDEL DOWN<CR>
	DEL ***	---AVP-A1HD can be operated from 0 to 300	PSDEL ***<CR>
	DEL ?	Return PSDEL Status	PSDEL ?<CR>
	AFD ON	AFDM ON/OFF	PSAFD ON<CR>
	AFD OFF		PSAFD OFF<CR>
	AFD ?	Return PSAFD Status	PSAFD ?<CR>
	PAN ON	PANORAMA ON/OFF	PSPAN ON<CR>
	PAN OFF		PSPAN OFF<CR>
	PAN ?	Return PSPAN Status	PSPAN ?<CR>
	DIM UP	DIMENSION UP/DOWN, direct change to **dB	PSDIM UP<CR>
	DIM DOWN	**:00 to 99 by ASCII, 00=0,	PSDIM DOWN<CR>
	DIM **	---AVP-A1HD can be operated from 0 to 6	PSDIM **<CR>
	DIM ?	Return PSDIM Status	PSDIM ?<CR>

PS ***COMMAND*** : "*" parameter uses two or three ASCII characters. (see page 6 J) section)

COMMAND	***PARAMETER***	function	example
PS	CEN UP	CENTER WIDTH UP/DOWN, direct change to **dB	PSCEN UP<CR>
	CEN DOWN	**:00 to 99 by ASCII, 00=0	PSCEN DOWN<CR>
	CEN **	---AVP-A1HD can be operated from 0 to 7	PSCEN 07<CR>
	CEN ?	Return PSCEN Status	PSCEN ?<CR>
	CEI UP	CENTER IMAGE UP/DOWN, direct change to **dB	PSCEI UP<CR>
	CEI DOWN	**:00 to 99 by ASCII, 00=0.0	PSCEI DOWN<CR>
	CEI **	---AVP-A1HD can be operated from 0.0 to 1.0	PSCEI 10<CR>
	CEI ?	Return PSCEI Status	OSCEI ?<CR>
	ATT ON	SW ATT ON/OFF	PSATT ON<CR>
	ATT OFF		PSATT OFF<CR>
	ATT ?	Return PSATT Status	PSATT ?<CR>
	SWR ON	SW ON/OFF	PSSWR ON<CR>
	SWR OFF		PSSWR OFF<CR>
	SWR ?	Return PSSWR Status	PSSWR ?<CR>
	RSZ S	ROOM SIZE direct change	PSRSZ S<CR>
	RSZ MS		PSRSZ MS<CR>
	RSZ M		PSRSZ M<CR>
	RSZ ML		PSRSZ ML<CR>
	RSZ L		PSRSZ L<CR>
	RSZ ?	Return PSRSZ Status	PSRSZ ?<CR>

PS ***COMMAND*** **:** "*" parameter uses two or three ASCII characters. (see page 6 J) section)

COMMAND	***PARAMETER***	function	example
PV	CN UP	CONTRAST UP/DOWN, direct change to **dB	PVCN UP<CR>
	CN DOWN	**:44 to 56 by ASCII, 50=0	PVCN DOWN<CR>
	CN **	---AVP-A1HD can be operated from -6 to +6(44 to 56)	PVCN **50**<CR>
	CN ?	Return PVCN Status	PVCN ?<CR>
	BR UP	BRIGHTNESS UP/DOWN, direct change to **dB	PVBR UP<CR>
	BR DOWN	**:00 to 12 by ASCII, 00=0	PVBR DOWN<CR>
	BR **	---AVP-A1HD can be operated from 0 to 12	PVBR 12<CR>
	BR ?	Return PVBR Status	PVBR ?<CR>
	CM UP	CROMA LEVEL UP/DOWN, direct change to **dB	PVCM UP<CR>
	CM DOWN	**:44 to 56 by ASCII, 50=0	PVSCM DOWN<CR>
	CM **	---AVP-A1HD can be operated from -6 to +6(44 to 56)	PVCM **50**<CR>
	CM ?	Return PVCN Status	PVCM ?<CR>
	HUE UP	HUE UP/DOWN, direct change to **dB	PVHUE UP<CR>
	HUE DOWN	**:44 to 56 by ASCII, 50=0	PVHUE DOWN<CR>
	HUE **	---AVP-A1HD can be operated from -6 to +6(44 to 56)	PVHUE **50**<CR>
	HUE ?	Return PVHUE Status	PVHUE ?<CR>
	DNR OFF	**DNR direct change**	**PVDNR OFF<CR>**
	DNR LOW		**PVDNR LOW<CR>**
	DNR MID		**PVDNR MID<CR>**
	DNR HI		**PVHUE HI<CR>**
	DNR ?	**Return PVDNR Status**	**PVDNR ?<CR>**
	ENH UP	**ENHANCER UP/DOWN, direct change to **dB**	**PVENH UP<CR>**
	ENH DOWN	**:00 to 12 by ASCII, 00=0**	**PVENH DOWN<CR>**
	ENH **	**---AVP-A1HD can be operated from 0 to 12**	**PVENH 12<CR>**
	ENH ?	**Return PVENH Status**	**PVENH ?<CR>**
	SH UP	**SHARPNESS UP/DOWN, direct change to **dB**	**PVSH UP<CR>**
	SH DOWN	**:44 to 56 by ASCII, 50=0**	**PVSH DOWN<CR>**
	SH **	**---AVP-A1HD can be operated from -6 to +6(44 to 56)**	**PVSH 50<CR>**
	SH ?	**Return PVSH Status**	**PVSH ?<CR>**

PV ***COMMAND*** : "*" parameter uses two ASCII characters. (see page 6 J) section)

COMMAND	***PARAMETER***	function	example
Z2	PHONO | IPOD	ZONE2 mode set, and select source ---The name of PARAMETER is the same as that of the time of SI COMMAND.	Z2PHONO<CR> | Z2IPOD<CR>
	SOURCE	ZONE2 mode cancel	Z2SOURCE<CR>
	UP	ZONE2 VOLUME UP/DOWN, direct change to ***dB	Z2UP<CR>
	DOWN		Z2DOWN<CR>
	**	**:10 to 99 by ASCII, 80=0dB, 99=---(MIN)	Z280<CR>
	ON	ZONE2 ON/OFF change	Z2ON<CR>
	OFF		Z2OFF<CR>
	?	Request Z2 Status	Z2?<CR>
Z2MU	ON	ZONE2 OUTPUT MUTE ON/OFF change	Z2MUON<CR>
	OFF		Z2MUOFF<CR>
	?	Request Z2MU Status	Z2MU?<CR>
Z2CS	ST	ZONE2 Channel setting	Z2CSST<CR>
	MONO		Z2CSMONO<CR>
	?	Return Z2CS Status	Z2CS?<CR>
Z2CV	FL UP	ZONE2 CHANNEL VOLUME UP/DOWN, direct change to **dB	Z2CVFL UP<CR>
	FL DOWN	---FRONT Lch	Z2CVFL DOWN<CR>
	FL **	**:38 to 62 by ASCII, 50=0dB	Z2CVFL 50<CR>
	FR UP	ZONE2 CHANNEL VOLUME UP/DOWN, direct change to **dB	Z2CVFR UP<CR>
	FR DOWN	---FRONT Rch	Z2CVFR DOWN<CR>
	FR **	**:38 to 62 by ASCII, 50=0dB	Z2CVFR 50<CR>
	?	Return Z2CV Status	Z2CV?<CR>
Z2HPF	ON	ZONE2 HPF ON/OFF	Z2HPFON<CR>
	OFF		Z2HPFOFF<CR>
	?	Return Z2HPF Status	Z2HPF?<CR>

Z2 ***COMMAND*** : "*" parameter uses two ASCII characters. (see page6 (J) section)

COMMAND	***PARAMETER***	function	example
Z2PS	BAS UP	ZONE2 BASS UP/DOWN, direct change to **dB	Z2PSBAS UP<CR>
	BAS DOWN	**:00 to 99 by ASCII, 00=0dB	Z2PSBAS DOWN<CR>
	BAS **	---AVP-A1HD can be operated from -10 to +10(40 to 60)	Z2PSBAS 00<CR>
	BAS ?	Return Z2PSBAS Status	Z2PSBAS ?<CR>
	TRE UP	ZONE2 TREBLE UP/DOWN, direct change to **dB	Z2PSTRE UP<CR>
	TRE DOWN	**:00 to 99 by ASCII, 00=0dB	Z2PSTRE DOWN<CR>
	TRE **	---AVP-A1HD can be operated from -10 to +10(40 to 60)	Z2PSTRE 00<CR>
	TRE ?	Return Z2PSTRE Status	Z2PSTRE ?<CR>

Z2 ***COMMAND*** **:** "*" parameter uses two ASCII characters. (see page 6 J) section)

COMMAND	***PARAMETER***	function	example
Z3	PHONO | IPOD	ZONE3 mode set, and select source ---The name of PARAMETER is the same as that of the time of SI COMMAND.	Z3PHONO<CR> | Z3IPOD<CR>
	SOURCE	ZONE3 mode cancel	Z3SOURCE<CR>
	UP	ZONE3 VOLUME UP/DOWN, direct change to ***dB	Z3UP<CR>
	DOWN		Z3DOWN<CR>
	**	**:10 to 99 by ASCII, 80=0dB, 99=---(MIN)	Z380<CR>
	ON	ZONE3 ON/OFF change	Z3ON<CR>
	OFF		Z3OFF<CR>
	?	Request Z3 Status	Z3?<CR>
Z3MU	ON	ZONE3 OUTPUT MUTE ON/OFF change	Z2MUON<CR>
	OFF		Z2MUOFF<CR>
	?	Request Z3MU Status	Z3MU?<CR>
Z3CS	ST	ZONE3 Channel setting	Z3CSST<CR>
	MONO		Z3CSMONO<CR>
	?	Return Z3CS Status	Z3CS?<CR>
Z3CV	FL UP	ZONE3 CHANNEL VOLUME UP/DOWN, direct change to **dB	Z3CVFL UP<CR>
	FL DOWN	---FRONT Lch	Z3CVFL DOWN<CR>
	FL **	**:38 to 62 by ASCII, 50=0dB	Z3CVFL 50<CR>
	FR UP	ZONE3 CHANNEL VOLUME UP/DOWN, direct change to **dB	Z3CVFR UP<CR>
	FR DOWN	---FRONT Rch	Z3CVFR DOWN<CR>
	FR **	**:38 to 62 by ASCII, 50=0dB	Z3CVFR 50<CR>
	?	Return Z3CV Status	Z3CV?<CR>
Z3HPF	ON	ZONE3 HPF ON/OFF	Z3HPFON<CR>
	OFF		Z3HPFOFF<CR>
	?	Return Z3HPF Status	Z3HPF?<CR>

Z3 ***COMMAND*** : "*" parameter uses two ASCII characters. (see page6 (J) section)

COMMAND	***PARAMETER***	function	example
Z3PS	BAS UP	ZONE3 BASS UP/DOWN, direct change to **dB	Z3PSBAS UP<CR>
	BAS DOWN	**:00 to 99 by ASCII, 00=0dB	Z3PSBAS DOWN<CR>
	BAS **	---AVP-A1HD can be operated from -10 to +10(40 to 60)	Z3PSBAS 00<CR>
	BAS ?	Return Z3PSBAS Status	Z3PSBAS ?<CR>
	TRE UP	ZONE3 TREBLE UP/DOWN, direct change to **dB	Z3PSTRE UP<CR>
	TRE DOWN	**:00 to 99 by ASCII, 00=0dB	Z3PSTRE DOWN<CR>
	TRE **	---AVP-A1HD can be operated from -10 to +10(40 to 60)	Z3PSTRE 00<CR>
	TRE ?	Return Z3PSTRE Status	Z3PSTRE ?<CR>

Z3 ***COMMAND*** : "*" parameter uses two ASCII characters. (see page 6 J) section)

COMMAND	***PARAMETER***	function	example
Z4	CD | V.AUX	ZONE4 mode set , and select source ---The name of PARAMETER is the same as that of the time of SI COMMAND **that is assigned DIGITAL INPUT**	Z4CD<CR> | Z4V.AUX<CR>
	SOURCE	ZONE4 mode cancel	Z4SOURCE<CR>
	ON	ZONE4 ON/OFF change	Z4ON<CR>
	OFF		Z4OFF<CR>
	?	Return Z4 Status	Z4?<CR>

※ANALOG TUNER Control

COMMAND	***PARAMETER***	function	example
TF	ANUP	TUNER Frequency UP/DOWN	TFANUP<CR>
	ANDOWN		TFANDOWN<CR>
	AN****** (6 digits)	--- ****.** kHz at AM band (>050000 is AM.) ****.** MHz at FM band (<050000 is FM.)	TFAN105000<CR> (1050.00kHz at AM)
	AN?	Return TF Status	TFAN?<CR>
TP	ANUP	TUNER PRESET CH UP/DOWN , direct change to No.**	TPANUP<CR>
	ANDOWN		TPANDOWN<CR>
	AN**(PRESET No.)		TPANA1<CR> (PRESET No.”A1”)
	AN?	Return TP Status	TPAN?<CR>
	ANMEM	TUNER PRESET MEMORY	TPANMEM<CR>
TM		TUNER BAND , MODE Select	
	ANAM	---Band set to AM	TMANAM<CR>
	ANFM	---Band set to FM	TMANFM<CR>
	AN?	Return TM Status	TMAN?<CR>
	ANAUTO	---Tuning mode set to AUTO mode	TMANAUTO<CR>
	ANMANUAL	---Tuning mode set to MANUAL mode	TMANMANUAL<CR>

TF, TP, TM ***COMMAND*** : '*' parameters can NOT operate when INPUT source isn’t TUNER.

※XM Control(North America model only)

COMMAND	*PARAMETER*	function	example
TF	XMUP	XM Channel UP/DOWN	TFXMUP<CR>
	XMDOWN		TFXMDOWN<CR>
	XM*** (3 digits)	--- ***:XM CH No.	TFXM001<CR> (XM001 CH at XM)
	XM?	Return TFXM Status	TFXM?<CR>
TP	XMUP	XM PRESET CH UP/DOWN , direct change to No.**	TPXMUP<CR>
	XMDOWN		TPXMDOWN<CR>
	XM**(PRESET No.)		TPXMA1<CR> (PRESET No.”A1”)
	XM?	Return TPXM Status	TPXM?<CR>
	XMMEM	XM PRESET MEMORY	TPXMMEM<CR>
XM	?	Return XM Status - CHANNEL NAME, ARTIST, TITLE, SIGNAL LEVEL	**XM?<CR>**

※HD RADIO Control(North America model only)

COMMAND	*PARAMETER*	function	example
TF	HDUP	HD Channel UP/DOWN , direct change	TFHDUP<CR>
	HDDOWN		TFHDDOWN<CR>
	HD****** (6 digits)	--- ****.** kHz at AM band (>050000 is AM.) ****.** MHz at FM band (<050000 is FM.)	TFHD105000<CR> (1050.00kHz at AM)
	HDMC* (1 digit)	---HD Multi Cast CH Select(*:0～8 A:Analog)	TFHDMC2<CR>
	HD?	Return TFHD Status	TFHD?<CR>
TP	HDUP	HD PRESET CH UP/DOWN , direct change to No.**	TPHDUP<CR>
	HDDOWN		TPHDDOWN<CR>
	HD** (PRESET No.)		TPHDA1<CR> (PRESET No.”A1”)
	HD?	Return TPHD Status	TPHD?<CR>
	HDMEM	HD PRESET MEMORY	TPHDMEM<CR>
TM		HD RADIO BAND , MODE Select	
	HDAM	---Band set to AM	TMHDAM<CR>
	HDFM	---Band set to FM	TMHDFM<CR>
	HD?	Return TMHD Status	TMHD?<CR>
	HDAUTOHD	---Tuning mode set to AUTO-HD mode	TMHDAUTOHD<CR>
	HDAUTO	---Tuning mode set to AUTO mode	TMHDAUTO<CR>
	HDMANUAL	---Tuning mode set to MANUAL mode	TMHDMANUAL<CR>
HD	?	Return HD Status ---BAND, STATION NAME, STATION LONG NAME, MULTI CAST CURRENT, MULTI CAST PROGRAM, SIGNAL LEVEL, ARTIST, TITLE,ALBUM, GENRE, PROGRAM TYPE, MODE	**HD?<CR>**

※iRadio/mServer/USB/Rhapsody Extended Control

COMMAND	***PARAMETER***	function	example
SI	USB	Select INPUT source NET/USB and USB Start Playback	SIUSB<CR>
Z2	USB	Select ZONE2 source NET/USB and USB Start Playback	Z2USB<CR>
Z3	USB	Select ZONE3 source NET/USB and USB Start Playback	Z3USB<CR>
Z4	USB	Select ZONE4 source NET/USB and USB Start Playback	Z4USB<CR>
NS	90	"Cursor Up" Control	NS90<CR>
	91	"Cursor Down" Control	NS91<CR>
	92	"Cursor Left" Control	NS92<CR>
	93	"Cursor Right" Control	NS93<CR>
	94	"Enter (Play/Pause)" Control	NS94<CR>
	9A	"Play" Control	NS9A<CR>
	9B	"Pause" Control	NS9B<CR>
	9C	"Stop" Control	NS9C<CR>
	9D	"Skip Plus" Control	NS9D<CR>
	9E	"Skip Minus" Control	NS9E<CR>
	9H	"Repeat One" (USB**/mServer/Rhapsody** Only)	NS9H<CR>
	9I	"Repeat All" (USB**/mServer/Rhapsody** Only)	NS9I<CR>
	9J	"Repeat Off" (USB**/mServer/Rhapsody** Only)	NS9J<CR>
	9K	"Random On/Repeat ALL" (USB**/mServer/Rhapsody** Only)	NS9K<CR>
	9L	"Random Off" (USB**/mServer/Rhapsody** Only)	NS9L<CR>
	9X	"Page Up" Control	NS9X<CR>
	9Y	"Page Down" Control	NS9Y<CR>
NSA		Return Onscreen Display Information List (ASCII CODE Character)	NSA<CR> (Return NSA0-NSA8,Refer to Page 42)
NSE		Request Onscreen Display Information List (UTF-8 CODE Character)	NSE<CR> (Return NSE0-NSE8,Refer to Page 43)
NSB	**	"Direct Preset CH Play"	NSB00<CR> (**:00-55,00=A1,01=A2,B1=08,G8=55)
NSC	**	"Direct Preset CH Memory"	NSC00<CR> (**:00-55,00=A1,01=A2,B1=08,G8=55)
NSD	*	"Direct Character Search"	NSD0<CR> (*:0-9,A-Z)

"Rhapsody" is available for North America Model only.

※iPod Extended Control

COMMAND	*PARAMETER*	function	example
IP	90	"Cursor Up" Control	IP90<CR>
	91	"Cursor Down" Control	IP91<CR>
	92	"Cursor Left" Control	IP92<CR>
	93	"Cursor Right" Control	IP93<CR>
	94	"Enter (Play/Pause)" Control	IP94<CR>
	9A	"Play/Pause" Control	IP9A<CR>
	9C	"Stop" Control	IP9C<CR>
	9D	"Skip Plus" Control	IP9D<CR>
	9E	"Skip Minus" Control	IP9E<CR>
	9F	"Manual Search Plus" Control	IP9F<CR>
	9G	"Manual Search Minus" Control	IP9G<CR>
	9H	"Repeat One" Control	IP9H<CR>
	9I	"Repeat All" Control	IP9I<CR>
	9J	"Repeat Off" Control	IP9J<CR>
	9K	"Shuffle Songs" Control	IP9K<CR>
	9L	"Shuffle Album" Control	IP9L<CR>
	9M	"Shuffle Off" Control	IP9M<CR>
	9N	"MENU" Control	IP9N<CR>
	9P	Switch the "Browse Mode" Control	IP9P<CR>
	9Q	Switch the "Remote Mode" Control	IP9Q<CR>
	9X	"Page Up" Control	IP9X<CR>
	9Y	"Page Down" Control	IP9Y<CR>
IPA		Return Onscreen Display Information List (ASCII CODE Character)	IPA<CR> (Return IPA0-IPA9. Refer to Page 46-47)
IPE		Request Onscreen Display Information List(iPOD) (UTF-8 CODE Character)	IPE<CR> (Return IPE0-IPE9. Refer to Page 48-49)

※Cursor/Enter/Setup/Parameter

COMMAND	*PARAMETER*	function	example
MN	CUP	"Cursor Up" Control	MNCUP<CR>
	CDN	"Cursor Down" Control	MNCDN<CR>
	CLT	"Cursor Left" Control	MNCLT<CR>
	CRT	"Cursor Right" Control	MNCRT<CR>
	ENT	"Enter" Control	MNENT<CR>
	RTN	"RETURN" Control	MNRTN<CR>
	MEN ON	"GUI Menu ON" Control	MNMEN ON<CR>
	MEN OFF	"GUI Menu OFF" Control	MNMEN OFF<CR>

※Remote Lock/Panel Lock

COMMAND	*PARAMETER*	function	example
SY	REMOTE LOCK ON	REMOTE CONTROL LOCK ON/OFF	SYREMOTE LOCK ON<CR>
	REMOTE LOCK OFF		SYREMOTE LOCK OFF<CR>
	REMOTE LOCK ?	Request SYREMOTE LOCK Status	SYREMOTE LOCK ?<CR>
	PANEL LOCK ON	PANEL BUTTON(Except MASTER VOL.)CONTROL LOCK ON	SYPANEL LOCK ON<CR>
	PANEL+V LOCK ON	PANEL BUTTON & MASTER VOL. CONTROL LOCK ON	SYPANEL+V LOCK ON<CR>
	PANEL LOCK OFF	PANEL BUTTUM & MASTER VOL. CONTROL LOCK OFF	SYPANEL LOCK OFF<CR>
	PANEL LOCK ?	Request SYPANEL LOCK Status	SYPANEL LOCK ?<CR>

EVENT(or RESPONSE) and PARAMETER list

EVENT	***PARAMETER***	function	example
PW	ON	POWER ON/STANDBY change	PWON<CR>
	STANDBY		PWSTANDBY<CR>
MV	**	MASTER VOLUME change, **:00 to 99 by ASCII 98 = +18dB(MAX) 80 = 0dB 10 = -70dB 00 = -80dB 99 = ---(MIN)	MV80<CR>
CV	FL **	CHANNEL VOLUME change, **:00 to 62 by ASCII 62 = +12dB(MAX) 50 = 0dB 38 = -12dB(MIN) 00 = OFF (define ONLY SW1, SW2, SW3, TRANSDUCER)	CVFL 50<CR>
	FR **		CVFR 50<CR>
	C **		CVC 50<CR>
	SW1 **		**CVSW1 50<CR>**
	SW2 **		**CVSW2 50<CR>**
	SW3 **		**CVSW3 50<CR>**
	SLA **		CVSLA 50<CR>
	SRA **		CVSRA 50<CR>
	SLB **		CVSLB 50<CR>
	SRB **		CVSRB 50<CR>
	SBL **	(at SBch 2SP)	CVSBL 50<CR>
	SBR **	(at SBch 2SP)	CVSBR 50<CR>
	SB **	(at SBch 1SP)	CVSB 50<CR>
	TR **		**CVTR 50<CR>**

The ***PARAMETER*** of MV , CV ***EVENT*** : Uses two ASCII characters. (see page 6 J) section)

EVENT	***PARAMETER***	function	example
MU	ON	OUTPUT MUTE ON/OFF change	MUON<CR>
	OFF		MUOFF<CR>
SI	PHONO	INPUT source change	SIPHONO<CR>
	CD		SICD<CR>
	TUNER		SITUNER<CR>
	DVD		SIDVD<CR>
	HDP		SIHDP<CR>
	TV/CBL		SITV/CBL<CR>
	SAT		SISAT<CR>
	VCR		SIVCR<CR>
	DVR-1		**SIDVR-1<CR>**
	DVR-2		**SIDVR-2<CR>**
	V.AUX		SIV.AUX<CR>
	NET/USB		SINET/USB<CR>
	XM	(North America model Only)	SIXM<CR>
	HDRADIO	(North America model Only)	SIHDRADIO<CR>
	USB		SIUSB<CR>
	IPOD		SIIPOD<CR>
ZM	ON	MAIN-ZONE ON/OFF change	ZMON<CR>
	OFF		ZMOFF<CR>
SR	PHONO | IPOD	REC SELECT source change ---The name of PARAMETER is the same as that of the time of SI COMMAND.	SRPHONO<CR> | SRIPOD<CR>
	SOURCE	REC SELECT mode cancel	SRSOURCE<CR>

EVENT	***PARAMETER***	function	example
SD	AUTO	INPUT mode change	SDAUTO<CR>
	HDMI		SDHDMI<CR>
	DIGITAL		SDDIGITAL<CR>
	ANALOG		SDANALOG<CR>
	EXT.IN-1	---Set EXT.IN mode at AVP-A1HD	SDEXT.IN-1<CR>
DC	AUTO	DIGITAL INPUT mode change	DCAUTO<CR>
	PCM		DCPCM<CR>
	DTS		DCDTS<CR>
SV	DVD	VIDEO SELECT mode source change	SVDVD<CR>
	HDP		SVVDP<CR>
	TV/CBL		SVTV/CBL<CR>
	SAT		SVSAT<CR>
	VCR		SVVCR<CR>
	DVR-1		**SVDVR-1<CR>**
	DVR-2		**SVDVR-2<CR>**
	V.AUX		SVV.AUX<CR>
	SOURCE	VIDEO SELECT mode cancel	SVSOURCE<CR>

EVENT	***PARAMETER***	function	example
MS	DIRECT	SURROUND mode change	MSDIRECT<CR>
	PURE DIRECT		MSPURE DIRECT<CR>
	STEREO		MSSTEREO<CR>
	MULTI CH IN		MSMULTI CH IN<CR>
	M CH IN+PL2X C		MSM CH IN+PL2X C<CR>
	M CH IN+PL2X M		MSM CH IN+PL2X M<CR>
	MULTI CH IN 7.1		MSMULTI CH IN 7.1<CR>
	MULTI CH DIRECT		MSMULTI CH DIRECT<CR>
	M CH DRCT+PL2X C		MSM CH DRCT+PL2X C<CR>
	M CH DRCT+PL2X M		MSM CH DRCT+PL2X M<CR>
	M DIRECT 7.1		MSM DIRECT 7.1<CR>
	MULTI CH PURE D		MSMULTI CH PURE D<CR>
	M CH PURE D+PL2X C		MSM CH PURE D+PL2X C<CR>
	M CH PURE D+PL2X M		MSM CH PURE D+PL2X M<CR>
	M CH PURE D 7.1		MSMULTI CH PURE D 7.1<CR>
	DOLBY PRO LOGIC		MSDOLBY PRO LOGIC<CR>
	DOLBY PL2 C		MSDOLBY PL2 C<CR>
	DOLBY PL2 M		MSDOLBY PL2 M<CR>
	DOLBY PL2 G		MSDOLBY PL2 G<CR>
	DOLBY PL2X C		MSDOLBY PL2X C<CR>
	DOLBY PL2X M		MSDOLBY PL2X M<CR>
	DOLBY PL2X G		MSDOLBY PL2X G<CR>
	DOLBY DIGITAL		MSDOLBY DIGITAL<CR>
	DOLBY D EX		MSDOLBY D EX<CR>
	DOLBY D+PL2X C		MSDOLBY D+PL2X C<CR>
	DOLBY D+PL2X M		MSDOLBY D+PL2X M<CR>
	DTS NEO:6 C		MSDTS NEO:6 C<CR>
	DTS NEO:6 M		MSDTS NEO:6 M<CR>
	DTS SURROUND		MSDTS SURROUND<CR>
	DTS ES DSCRT6.1		MSDTS ES DSCRT6.1<CR>
	DTS ES MTRX6.1		MSDTS ES MTRX6.1<CR>
	DTS+PL2x C		MSDTS+PL2X C<CR>
	DTS+PL2x M		MSDTS+PL2X M<CR>

EVENT	***PARAMETER***	function	example
MS	**DOLBY H/P**		**MSDOLBY H/P<CR>**
	DTS+DOLBY H/P		**MSDTS+DOLBY H/P<CR>**
	PL2x C+THX		**MSPL2X C+THX<CR>**
	PL2 C+THX		**MSPL2 C+THX<CR>**
	PL+THX		**MSPL+THX<CR>**
	NEO:6 C+THX		**MSNEO:6 C+THX<CR>**
	THX CINEMA		**MSTHX CINEMA<CR>**
	THX U2 CINEMA		**MSTHX U2 CINEMA<CR>**
	THX MUSIC MODE		**MSTHX MUSIC MODE<CR>**
	THX GAMES MODE		**MSTHX GAMES MODE<CR>**
	THX SURROUND EX		**MSTHX SURROUND EX<CR>**
	ES DSCRT6.1+THX		**MSES DSCRT6.1+THX<CR>**
	ES MTRX6.1+THX		**MSES MTRX6.1+THX<CR>**
	M CH 7.1+THX		**MSM CH 7.1+THX<CR>**
	M CH 5.1+THX		**MSM CH 5.1+THX<CR>**
	WIDE SCREEN		MSWIDE SCREEN<CR>
	5CH STEREO		MS5CH STEREO<CR>
	7CH STEREO		MS7CH STEREO<CR>
	9CH STEREO		**MS9CH STEREO<CR>**
	SUPER STADIUM		MSSUPER STADIUM<CR>
	ROCK ARENA		MSROCK ARENA<CR>
	JAZZ CLUB		MSJAZZ CLUB<CR>
	CLASSIC CONCERT		MSCLASSIC CONCERT<CR>
	MONO MOVIE		MSMONO MOVIE<CR>
	MATRIX		MSMATRIX<CR>
	VIDEO GAME		MSVIDEO GAME<CR>
	MPEG2 AAC	---Only The Model for Japan	MSMPEG2 AAC<CR>
	AAC+DOLBY EX	---Only The Model for Japan	MSAAC+DOLBY EX<CR>
	AAC+PL2X C	---Only The Model for Japan	MSAAC+PL2X C<CR>
	AAC+PL2X M	---Only The Model for Japan	MSAAC+PL2X M<CR>

EVENT	***PARAMETER***	Function	example
MS	DSD DIRECT		MSDSD DIRECT<CR>
	DSD PURE DIRECT		MSDSD PURE DIRECT<CR>
	DSD MULTI DRCT		MSDSD MULTI DRCT<CR>
	DSD MULTI PURE		MSDSD MULTI PURE<CR>
	NEURAL	---(North America model Only)	MSNEURAL<CR>
	DOLBY D+		MSDOLBY D+<CR>
	DOLBY D+ +EX		MSDOLBY D+ +EX<CR>
	DOLBY D+ +PL2x C		MSDOLBY D+ +PL2X C<CR>
	DOLBY D+ +PL2x M		MSDOLBY D+ +PL2X M<CR>
	DOLBY TRUEHD		MSDOLBY HD<CR>
	DOLBY HD		MSDOLBY HD<CR>
	DOLBY HD+EX		MSDOLBY HD+EX<CR>
	DOLBY HD+PL2x C		MSDOLBY HD+PL2X C<CR>
	DOLBY HD+PL2x M		MSDOLBY HD+PL2X M<CR>
	DTS HD		MSDTS HD<CR>
	DTS HD MSTR		MSDTS HD MSTR<CR>
	DTS HD+NEO:6		MSDTS HD+NEO:6
	DTS HD+PL2X C		MSDTS HD+PL2X C
	DTS HD+PL2X M		MSDTS HD+PL2X M
	DTS EXPRESS		MSDTS EXPRESS
	DTS ES 8CH DSCRT		MSDTS ES 8CH DSCRT
	QUICK1	QUICK SELECT mode change	MSQUICK1<CR>
	QUICK2		MSQUICK2<CR>
	QUICK3		MSQUICK3<CR>
	QUICK0	--- QUICK 1(or QUICK 2 or QUICK 3) Change QUICK OFF	MSQUICK0<CR>

EVENT	***PARAMETER***	Function	example
VS	MONIAUTO	HDMI MONITOR setting change	VSMONIAUTO<CR>
	MONI1		VSMONI1<CR>
	MONI2		VSMONI2<CR>
	ASPNRM	ASPECT setting change	VSASPNRM<CR>
	ASPFUL		VSASPFUL<CR>
	SC48P	SCALER setting change	VSSC48P<CR>
	SC10I		VSSC10I<CR>
	SC72P		VSSC72P<CR>
	SC10P		VSSC10P<CR>
	SCAUTO		VSSCAUTO<CR>
	SCH48P	**SCALER setting change(HDMI)**	**VSSCH48P<CR>**
	SCH10I		**VSSCH10I<CR>**
	SCH72P		**VSSCH72P<CR>**
	SCH10P		**VSSCH10P<CR>**
	SCHAUTO		**VSSCHAUTO<CR>**

EVENT	***PARAMETER***	function	example
PS	TONE DEFEAT ON	TONE DEFEAT ON/OFF change	PSTONE DEFEAT ON<CR>
	TONE DEFEAT OFF		PSTONE DEFEAT OFF<CR>
	BAS **	BASS change	PSBAS 00<CR>
	BASFRO **		**BASFRO 50<CR>**
	BASCEN **		**BASCEN 50<CR>**
	BASSUR **		**BASSUR 50<CR>**
	BASSBK **		**BASSBK 50<CR>**
	BASSWF **		**BASSWF UP<CR>**
	TRE **	TREBLE change	PSTRE 00<CR>
	TREFRO **		**TREFRO 50<CR>**
	TRECEN **		**TRECEN 50<CR>**
	TRESUR **		**TRESUR 50<CR>**
	TRESBK **		**TRESBK 50<CR>**
	ROOM EQ:AUDYSSEY	ROOM EQ mode direct change	PSROOM EQ:AUDYSSEY<CR>
	ROOM EQ:BYP.LR		PSROOM EQ:BYP.LR<CR>
	ROOM EQ:FLAT		PSROOM EQ:FLAT<CR>
	ROOM EQ:MANUAL		PSROOM EQ:MANUAL<CR>
	ROOM EQ:OFF		PSROOM EQ:OFF<CR>
	DYE ON	**DYNAMIC EQ change**	**PSDYE ON<CR>**
	DYE OFF		**PSDDYE OFF<CR>**
	NIGHT OFF	NIGHT MODE change	PSNIGHT OFF<CR>
	NIGHT LOW		PSNIGHT LOW<CR>
	NIGHT MID		PSNIGHT MID<CR>
	NIGHT HI		PSNIGHT HI<CR>
	RSTR OFF	AUDIO RESTORER change	PSRSTR OFF<CR>
	RSTR MODE1		PSRSTR MODE1<CR>
	RSTR MODE2		PSRSTR MODE2<CR>
	RSTR MODE3		PSRSTR MODE3<CR>
	DELAY ***	AUDIO DELAY change, ***:000 to 999 by ASCII ---AVP-A1HD : 200=200ms (MAX)	PSDELAY 200<CR>

The ***PARAMETER*** of PS ***EVENT*** : Uses two or three ASCII characters. (see page 6 J) section)

COMMAND	***PARAMETER***	function	example
PS	SB:MTRX ON	SURROUND BACK MODE change / **THX MODE set**	PSSB:MTRX ON<CR>
	SB:NON MTRX		PSSB:NON MTRX<CR>
	SB:PL2X C		PSSB:PL2X C<CR>
	SB:PL2X M		PSSB:PL2X M<CR>
	SB:7.1+THX		**PSSB:7.1+THX<CR>**
	SB:ULTRA2 C		**PSSB:ULTRA2 C<CR>**
	SB:MUSIC		**PSSB:MUSIC<CR>**
	SB:GAME		**PSSB:GAME<CR>**
	SB:ES DSCRT		PSSB:ES DSCRT<CR>
	SB:ES MTRX		PSSB:ES MTRX<CR>
	SB:ON		PSSB:ON<CR>
	SB:OFF		PSSB:OFF<CR>
	SB:DSCRT ON		PSSB:DSCRT ON<CR>
	CINEMA EQ.ON	CINEMA EQ. ON/OFF Change	PSCINEMA EQ.ON<CR>
	CINEMA EQ.OFF		PSCINEMA EQ.OFF<CR>
	MODE:PRO LOGIC	CINEMA / MUSIC / GAME / PL mode change	PSMODE:PRO LOGIC<CR>
	MODE:CINEMA		PSMODE:CINEMA<CR>
	MODE:MUSIC		PSMODE:MUSIC<CR>
	MODE:GAME		PSMODE:GAME<CR>
	INP MUL	**INPUT MODE change**	**PSINP MUL<CR>**
	INP 2CH	**This parameter can change EXT.IN(DSP) mode.**	**PSINP 2CH<CR>**
	DEC:PL2X C	**THX DECODER change**	**PSDEC:PL2X C<CR>**
	DEC:PL2 C		**PSDEC:PL2 C<CR>**
	DEC:PL		**PSDEC:PL<CR>**
	DECH:NEO:6 C		**PSDEC:NEO:6 C<CR>**
	DEH:PL2 C	**DOLBY HEADPHONE DECODER change**	**PSDEH:PL2 C<CR>**
	DEH:PL2 M		**PSDEH:PL2 M<CR>**
	DEH:NEO:6 C		**PSDEH:NEO:6 C<CR>**
	DEH:NEO:6 M		**PSDEH:NEO:6 M<CR>**
	DEH:OFF		**PSDEH:OFF<CR>**
	DRC AUTO	DRC change	PSDRC AUTO<CR>
	DRC LOW		PSDRC LOW<CR>
	DRC MID		PSDRC MID<CR>
	DRC HI		PSDRC HI<CR>
	DRC OFF		PSDRC OFF<CR>

COMMAND	***PARAMETER***	function	example
PS	DCO OFF	D.COMP change	PSDCO OFF<CR>
	DCO MID		PSDCO MID<CR>
	DCO LOW		PSDCO LOW<CR>
	DCO MID		PSDCO MID<CR>
	DCO HIGH		PSDCO HIGH<CR>
	LFE **	LFE change	PSLFE 10<CR>
	EFF ON	EFFECT change	PSEFF UP<CR>
	EFF OFF		PSEFF DOWN<CR>
	EFF **	EFFECT LEVEL change	PSEFF **<CR>
	DEL ***	DELAY change	PSDEL ***<CR>
	AFD ON	AFDM change	PSAFD ON<CR>
	AFD OFF		PSAFD OFF<CR>
	PAN ON	PANORAMA change	PSPAN ON<CR>
	PAN OFF		PSPAN OFF<CR>
	DIM **	DIMMENSION change	PSDIM **<CR>
	CEN **	CENTER WIDTH change	PSCEN 07<CR>
	CEI **	CENTER IMAGE change	PSCEI 10<CR>
	ATT ON	SW ATT change	PSATT ON<CR>
	ATT OFF		PSATT OFF<CR>
	SWR ON	SW ON/OFF change	PSSWR ON<CR>
	SWR OFF		PSSWR OFF<CR>
	RSZ S	ROOM SIZE change	PSRSZ S<CR>
	RSZ MS		PSRSZ MS<CR>
	RSZ M		PSRSZ M<CR>
	RSZ ML		PSRSZ ML<CR>
	RSZ L		PSRSZ L<CR>

The ***PARAMETER*** of PS ***EVENT*** : Uses two or three ASCII characters. (see page 6 J) section)

EVENT	***PARAMETER***	function	example
PV	CN **	CONTRAST change	PVCN **50**<CR>
	BR **	BRIGHTNESS Change	PVBR 12<CR>
	CM **	CROMA LEVEL change	PVCM **50**<CR>
	HUE **	HUE Change	PVHUE **50**<CR>
	DNR OFF	**DNR change**	**PVDNR OFF<CR>**
	DNR LOW		**PVDNR LOW<CR>**
	DNR MID		**PVDNR MID<CR>**
	DNR HI		**PVHUE HI<CR>**
	ENH **	**ENHANCER change**	**PVENH 12<CR>**
	SH **	**SHARPNESS change**	**PVSH 50<CR>**

The ***PARAMETER*** of PV ***EVENT*** : Uses two ASCII characters. (see page 6 J) section)

EVENT	***PARAMETER***	function	example

Z2	PHONO
	  |
	IPOD
		ZONE2 source change
		---The name of PARAMETER is
		the same as that of the time of SI COMMAND.
			Z2PHONO<CR>
			  |
			Z2IPOD<CR>

	SOURCE	ZONE2 mode cancel	Z2SOURCE<CR>
	**	ZONE2 VOLUME change , **:10 to 99 by ASCII 98 = +18dB(MAX) 80 = 0dB 10 = -70dB 99 = ---(MIN)	Z280<CR>
	ON	ZONE2 ON/OFF change	Z2ON<CR>
	OFF		Z2OFF<CR>
Z2MU	ON	ZONE2 OUTPUT MUTE ON/OFF change	Z2MUON<CR>
	OFF		Z2MUOFF<CR>
Z2CS	ST	ZONE2 Channel setting	Z2CSST<CR>
	MONO		Z2CSMONO<CR>
Z2CV	FL **	**:38 to 62 by ASCII , 50=0dB	Z2CVFL 50<CR>
	FR **	**:38 to 62 by ASCII , 50=0dB	Z2CVFR 50<CR>
Z2HPF	ON	ZONE2 HPF ON/OFF change	Z2HPFON<CR>
	OFF		Z2HPFOFF<CR>
Z2PS	BAS **	ZONE2 BASS change	Z2PSBAS 00<CR>
	TRE **	ZONE2 TEBLE change	Z2PSTRE 00<CR>

The ***PARAMETER*** of Z2 ***EVENT*** : "*" parameter uses two ASCII characters. (see page6 (J) section)

EVENT	***PARAMETER***	function	example
Z3	PHONO | IPOD	ZONE3 source change ---The name of PARAMETER is the same as that of the time of SI COMMAND.	Z3PHONO<CR> | Z3IPOD<CR>
	SOURCE	ZONE3 mode cancel	Z3SOURCE<CR>
	**	ZONE3 VOLUME change , **:10 to 99 by ASCII 98 = +18dB(MAX) 80 = 0dB 10 = -70dB 99 = ---(MIN)	Z380<CR>
	ON	ZONE3 ON/OFF change	Z3ON<CR>
	OFF		Z3OFF<CR>
Z3MU	ON	ZONE3 OUTPUT MUTE ON/OFF change	Z3MUON<CR>
	OFF		Z3MUOFF<CR>
Z3CS	ST	ZONE3 Channel setting	Z3CSST<CR>
	MONO		Z3CSMONO<CR>
Z3CV	FL **	**:38 to 62 by ASCII , 50=0dB	Z3CVFL 50<CR>
	FR **	**:38 to 62 by ASCII , 50=0dB	Z3CVFR 50<CR>
Z3HPF	ON	ZONE3 HPF ON/OFF change	Z3HPFON<CR>
	OFF		Z3HPFOFF<CR>
Z3PS	BAS **	ZONE3 BASS change	Z3PSBAS 00<CR>
	TRE **	ZONE3 TEBLE change	Z3PSTRE 00<CR>
Z4	CD | V.AUX	ZONE4 source change ---The name of PARAMETER is the same as that of the time of SI COMMAND **that is assigned DIGITAL INPUT.**	Z4CD<CR> | Z4V.AUX<CR>
	SOURCE	ZONE4 mode cancel	Z4SOURCE<CR>
	ON	ZONE4 ON/OFF change	Z4ON<CR>
	OFF		Z4OFF<CR>

The ***PARAMETER*** of Z3 ***EVENT*** : Uses two ASCII characters. (see page 6 J) section)

※ANALOG TUNER Control

EVENT	***PARAMETER***	function	example
TF	AN****** (6 digits)	TUNER Frequency change --- ****.** kHz at AM band ****.** MHz at FM band	TFAN105000<CR> (1050.00kHz at AM)
TP	AN**(PRESET No.)	TUNER PRESET change to No.**	TPANA1<CR> (PRESET No.”A1”)
TM		TUNER BAND , MODE change	
	ANAM	---Band set to AM	TMANAM<CR>
	ANFM	---Band set to FM	TMANFM<CR>
	ANAUTO	---Tuning mode set to AUTO mode	TMANAUTO<CR>
	ANMANUAL	---Tuning mode set to MANUAL mode	TMANMANUAL<CR>

※XM Control(North America model only)

EVENT	***PARAMETER***	function	example
TF	XM*** (3 digits)	--- ***:XM CH No.	TFXM001<CR> (XM001 CH)
TP	XM**(PRESET No.)	XM PRESET change to No.**	TPXMA1<CR> (PRESET No.”A1”)
XM	CH NAME ******** (8 digit)	XM CH NAME change	TMCH NAME 20 on 20<CR>
	ARTIST ********** (16 digit)	XM ARTIST NAME change	TMARTIST EMINEM <CR>
	TITLE ********** (16 digit)	XM TITLE NAME change	TMTITLE JUST LOSE IT <CR>
	XMID ******** (8 digit)	XM RADIO ID(XM000 Selected)	TMXMID J3JU703B<CR>
	SIGNAL GOOD	XM ANTENNA SIGNAL STATUS change	TMSIGNAL GOOD<CR>
	SIGNAL WEAK		TMSIGNAL WEAK<CR>
	SIGNAL MARGINAL		TMSIGNAL MARGINAL<CR>
	SIGNAL NOSIGNAL		TMSIGNAL NOSIGNAL<CR>

※HD RADIO Control(North America model only)

EVENT	***PARAMETER***	function	example
TF	HD****** (6 digits)	--- ****.** kHz at AM band (>050000 is AM.) ****.** MHz at FM band (<050000 is FM.)	TPHD105000<CR> (1050.00kHz at AM)
	HDMC*(1 digit)	---HD Multi Cast CH change(*:0～8,A:Analog)	TFHDMC2<CR>
TP	HD**(PRESET No.)	HD PRESET change to No.**	TPHDA1<CR> (PRESET No.”A1”)
TM	HDAM	HD RADIO BAND , MODE change ---Band set to AM	TMHDAM<CR>
	HDFM	---Band set to FM	TMHDFM<CR>
	HDAUTOHD	---Tuning mode set to AUTO-HD mode	TMHDAUTOHD<CR>
	HDAUTO	---Tuning mode set to AUTO mode	TMHDAUTO<CR>
	HDMANUAL	---Tuning mode set to MANUAL mode	TMHDMANUAL<CR>
HD	ST NAME (8 digits)	HD STATION NAME change	HDST NAME ********<CR>
	STL NAME (56 digits)	HD STATION LONG NAME change	HDSTL NAME (56 digits)<CR>
	SIG LEV * (1 digit)	HD ANTENNA SIGNAL STATUS change	HDSIG LEV 0<CR>
			HDSIG LEV 1<CR>
			HDSIG LEV 2<CR>
			HDSIG LEV 3<CR>
			HDSIG LEV 4<CR>
			HDSIG LEV 5<CR>
			HDSIG LEV 6<CR>
	MLT CURRENT * (1 digit)	HD MULTI CAST CURRENT CH change	HDMLT CURRENT *<CR>
	MLT CAST CH (8 digits)	HD MULTI CAST CH change	HDMLT CAST CH ********<CR>
	PTY (18 digits)	HD PROGRAM TYPE change	HDPTY (18 digits)<CR>
	ARTIST (40 digits)	HD ARTIST NAME change	HDARTIST (40 digits)<CR>
	TITLE (40 digits)	HD TITLE NAME change	HDTITLE (40 digits)<CR>

EVENT	***PARAMETER***	function	example
HD	ALBUM (40 digits)	HD ALBUM NAME change	HDALBUM (40 digits)<CR>
	GENRE(23 digits)	HD GANRE change	HDGENRE (23 digits)<CR>
	MODE	HD MODE(ANALOG/DIGITAL)	HDMODE ANALOG<CR>
			HDMODE DIGITAL<CR>

※mServer/iRadio Extended Control

EVENT	***PARAMETER***	function	
NSA		Onscreen Display Information is Answered By the NSA Command.	
	0	Display Line1 Information	NSA0**********_?????<CR>
	1	Display Line3 Information	NSA1※**********_?????<CR>
	2	Display Line4 Information	NSA2※**********_?????<CR>
	3	Display Line5 Information	NSA3※**********_?????<CR>
	4	Display Line6 Information	NSA4※**********_?????<CR>
	5	Display Line7 Information	NSA5※**********_?????<CR>
	6	Display Line8 Information	NSA6※**********_?????<CR>
	7	Display Line9 Information	NSA7**********_?????<CR>
	8	Display Line10 Information	NSA8**********_?????<CR> *:Character Length MAX96 _:Null ?:Exclusion(The character after Null should be disregarded) ※:Cursor&Playable Music Information Data(1Byte) Bit1:Playable Music =1 Bit2,3:Don't Care Bit4:CURSOR SELECT=1 Bit5,6,7,8:Don't Care
			<example> NSA0Now Playing USB_????<CR> NSA1※Come Away With Me_???<CR> NSA2※Norah Jones_?????????<CR> NSA3※_??????????????????<CR> NSA4※_??????????????????<CR> NSA5※00:11 100%_???????<CR> NSA6※_??????????????????<CR> NSA7_??????????????????<CR> NSA8_??????????????????<CR>

EVENT	***PARAMETER***	function	
NSE		Onscreen Display Information(mserver/iRadio) is Answered By the NSE Command.	
	0	Display Line1 Information	NSE0**********_?????<CR>
	1	Display Line3 Information	NSE1※**********_?????<CR>
	2	Display Line4 Information	NSE2※**********_?????<CR>
	3	Display Line5 Information	NSE3※**********_?????<CR>
	4	Display Line6 Information	NSE4※**********_?????<CR>
	5	Display Line7 Information	NSE5※**********_?????<CR>
	6	Display Line8 Information	NSE6※**********_?????<CR>
	7	Display Line9 Information	NSE7**********_?????<CR>
	8	Display Line10 Information	NSE8**********_?????<CR> *:UTF-8 CODE Character(MAX95byte) _:Null ?:Don't Care(The character after Null should be disregarded) ※:Cursor&Playable Music Information Data(1Byte) Bit1:Playable Music =1 Bit2,3:Don't Care Bit4:CURSOR SELECT=1 Bit5,6,7,8:Don't Care ********** _?????:96byte Fixed
			<example> NSE0Now Playing USB_????<CR> NSE1※Come Away With Me_???<CR> NSE2※Norah Jones_?????????<CR> NSE3※_??????????????????<CR> NSE4※_??????????????????<CR> NSE5※00:11 100%_???????<CR> NSE6※_??????????????????<CR> NSE7_??????????????????<CR> NSE8_??????????????????<CR>

※iPod Extended Control

EVENT	***PARAMETER***	function	
IPA		Onscreen Display Information is Answered By the IPA Command.	
	0	Display Line1 Information	IPA0**********_???<CR>
	1	Display Line3 Information	IPA1※**********_???<CR>
	2	Display Line4 Information	IPA2※**********_???<CR>
	3	Display Line5 Information	IPA3※**********_???<CR>
	4	Display Line6 Information	IPA4※**********_???<CR>
	5	Display Line7 Information	IPA5※**********_???<CR>
	6	Display Line8 Information	IPA6※**********_???<CR>
	7	Display Line9 Information	IPA7※**********_???<CR>
	8	Display Line10 Information	IPA8#**********_???<CR>
	9	Display Line11 Information	IPA9**********_???<CR> *:Character Length MAX96 _:Null ?:Exclusion(The character after Null should be disregarded) ※:Cursor Information Data(1Byte) Bit1:Playable Music=1 Bit2:Display Only=1 Bit3:Don't Care Bit4:CURSOR SELECT=1 Bit5-8:Don't Care #：Bit1-8:Don’t Care

EVENT	*PARAMETER*	function	
IPA			<example1> IPA0Artist??????????????????<CR> IPA1※ Ana Caram_???????????<CR> IPA2※ Badi Assad_???????????<CR> IPA3※ Christy Baron_????????<CR> IPA4※ Marta Gomez_??????????<CR> IPA5※ Rebecca Pidgeon_??????<CR> IPA6※ Sara K_???????????????<CR> IPA7※ Valerie Joyce_????????<CR> IPA8# SFL Songs RPT All_???<CR> IPA9 [2/ 6]_?????????<CR> <example2> IPA0Now Playing iPod_???????<CR> IPA1※ A HARD DAY'S NIGHT._??<CR> IPA2※ /The Beatles_?????????<CR> IPA3※_??????????????????????<CR> IPA4※ A HARD DAY'S NIGHT_???<CR> IPA5※ 00:04_?????????????<CR> IPA6※_??????????????????????<CR> IPA7※_??????????????????????<CR> IPA8# SFL Songs RPT All_???<CR> IPA9_??????????????????????<CR>

EVENT	*PARAMETER*	function	
IPE		Onscreen Display Information(iPod) is Answered By the IPA Command.	
	0	Display Line1 Information	IPE0**********_???<CR>
	1	Display Line3 Information	IPE1※**********_???<CR>
	2	Display Line4 Information	IPE2※**********_???<CR>
	3	Display Line5 Information	IPE3※**********_???<CR>
	4	Display Line6 Information	IPE4※**********_???<CR>
	5	Display Line7 Information	IPE5※**********_???<CR>
	6	Display Line8 Information	IPE6※**********_???<CR>
	7	Display Line9 Information	IPE7※**********_???<CR>
	8	Display Line10 Information	IPE8#**********_???<CR>
	9	Display Line11 Information	IPE9**********_???<CR> *:UTF-8 CODE Character(MAX95byte) _:Null ?:Exclusion(The character after Null should be disregarded) ※:Cursor Information Data(1Byte) Bit1:Playable Music=1 Bit2:Display Only=1 Bit3:Don't Care Bit4:CURSOR SELECT=1 Bit5-8:Don't Care #:Bit1-8:Don't Care **********_?????:96byte Fixed

EVENT	***PARAMETER***	function	
IPE			<example1> IPE0Artist??????????????????<CR> IPE1※ Ana Caram_????????????<CR> IPE2※ Badi Assad_???????????<CR> IPE3※ Christy Baron_????????<CR> IPE4※ Marta Gomez_??????????<CR> IPE5※ Rebecca Pidgeon_??????<CR> IPE6※ Sara K_???????????????<CR> IPE7※ Valerie Joyce_????????<CR> IPE8# SFL Songs RPT All_???<CR> IPE9 [2/ 6]_?????????<CR> <example2> IPE0Now Playing iPod_???????<CR> IPE1※ A HARD DAY'S NIGHT._??<CR> IPE2※ /The Beatles_?????????<CR> IPE3※_?????????????????????<CR> IPE4※ A HARD DAY'S NIGHT_???<CR> IPE5※ 00:04_?????????????<CR> IPE6※_?????????????????????<CR> IPE7※_?????????????????????<CR> IPE8# SFL Songs RPT All_???<CR> IPE9_?????????????????????<CR>

※Remote Lock/Panel Lock

EVENT	***PARAMETER***	Function	example
SY	REMOTE LOCK ON	REMOTE CONTROL LOCK ON/OFF	SYREMOTE LOCK ON<CR>
	REMOTE LOCK OFF		SYREMOTE LOCK OFF<CR>
	PANEL LOCK ON	PANEL BUTTON(Except MASTER VOL.)CONTROL LOCK ON	SYPANEL LOCK ON<CR>
	PANEL+V LOCK ON	PANEL BUTTON & MASTER VOL. CONTROL LOCK ON	SYPANEL+V LOCK ON<CR>
	PANEL LOCK OFF	PANEL BUTTUM & MASTER VOL. CONTROL LOCK OFF	SYPANEL LOCK OFF<CR>